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EXAMINER	
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2121	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/537,571	CHAN ET AL.	
	Examiner	Art Unit	
	Nathan H. Brown, Jr.	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *(3)* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-10,13,16-18,20 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-10,13,16-18,20 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Detailed Office Action

1. This Office Action is responsive to the communication for application 10/537,571, filed August 27, 2007.

2. Claims 1, 3-10, 13, 16-18, 20, and 36 are pending. Claims 1, 3-7, 9, 10, 13, 16-18, and 20 are currently amended. Claims 2, 11, 12, 14, 15, 19, and 21-35 are cancelled. Claim 8 is original. Claim 36 is new.

3. After the previous office action, claims 1-35 stood rejected.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1, 3-10, 13, 16-18, and 20 are rejected under 35 U.S.C. 101 because the claimed invention is not directed to a practical application and violates the doctrine of preemption. Amended independent claim 1 recites a "computer readable medium embodying a program of instructions executable by a processor to perform a method deriving knowledge from parameters and data" producing a final result of "outputting the knowledge derived by the inference to the

program of instructions". The recited "knowledge" derived "from parameters and data" is considered to be a mathematical abstraction of logical reasoning. The method for "deriving knowledge from parameters and data" is considered to be an algorithm. The final result of "outputting the knowledge derived by the inference to the program of instructions" does not provide a specific and substantial result such as the final share price, momentarily fixed for recording and reporting, in *State Street*; as the knowledge recited does not represent specific and substantial entities and relationships in a real-world problem domain. Further, since knowledge derived from parameters and data can represent any conceivable thing or situation, claim 1 violates the doctrine of preemption by seeking patent protection for the application of the claimed method to every substantial application. Claims 3-10, 13, 16-18, and 20 merely provide further algorithmic limitation of claim 1, and thus do not cure the deficiency of claim 1. Therefore claims 1, 3-10, 13, 16-18, and 20 are considered non-statutory under 35 U.S.C. 101.

6. Claim 36 is rejected under 35 U.S.C. 101 because the claimed invention is not directed to a practical application and violates the doctrine of preemption. Amended independent claim 36 recites a system with a memory and processors for "executing a program of instructions in communication with an externalized inference component" producing a final result of "evaluating the data of an externalized inferencing component...and outputting the knowledge derived by the inference to the program of instructions". The final result is not considered to provide a specific and substantial result, such as the final share price, momentarily fixed for recording and reporting, in *State Street*, as the claimed output knowledge recited does not represent specific and substantial entities and relationships in any real-world problem domain.

Further, since knowledge derived from parameters and data can represent any conceivable thing or situation, claim 36 violates the doctrine of preemption by seeking patent protection for a device which applies the method of claim 1 to every substantial application. Claim 36 is therefore considered to be non-statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1-33 are rejected under 35 U.S.C. 102(a) as being anticipated by *IBM*, "WebSphere Application Server Enterprise Services Business Rule Beans (BRBeans)", 2001.

Regarding claim 1. (Currently Amended) *IBM* teaches a computer readable medium embodying a program of instructions executable by a processor to perform a method deriving knowledge from parameters and data (*see* p. 8, §Getting Started with BRBeans, *Examiner interprets steps 1 and 2 to install a program of instructions on a computer readable medium (disk drive) of an AE server to be embodying a program of instructions executable by a processor.*), the method comprising:

evaluating the data of an externalized inferencing component in the presence of the parameters passed by a trigger point within the program of instructions to perform an inference (*see* pp. 26-27, §Situational Trigger Point - an example, code fragment, *Examiner interprets: a classifier rule to be an externalized inferencing component (Buisness Rule Bean (see pp. 2-4)) the data of the externalized inferencing component to be the "Customer cust" object, "TriggerPoint tp" to be a trigger point, and "Object [] classifierPlist" to comprise parameters passed by a trigger point within the program of instructions to perform an inference, and "result = tp.triggerSituational(this, classifiedPlist, classifierPlist, classifiedRule,classifierRuleName)" to be the point where the evaluation occurs.*), wherein the externalized inferencing component is in communication with the program of instructions (*see* p. 20, *Examiner interprets the "Firing Location" parameters to govern how the externalized inferencing component is in communication with the program of instructions.*), wherein the inference is a derivation of the knowledge (*see* p. 45, §Writing your own strategies, steps 1-3, *Examiner interprets the "firing strategy fires the rules found by the finding strategy, possibly modified by the filtering strategy...gathers up the results of the individual rules and these results are passed to the combining strategy" to implement derivation of the knowledge through firing a rule (i.e., inferencing).*); and

outputting the knowledge derived by the inference to the program of instructions (*see* p. 45, §Writing your own strategies, step 3, *Examiner interprets passing the results of steps 1-3 "to the combining strategy" to be outputting the knowledge derived by the inference to the program of instructions "to produce the final result of the trigger".*).

Regarding claim 36. (New) *IBM* teaches a system for executing a program of instructions in communication with an externalized inference component (*see* p. 2, *Examiner interprets "Websphere" to be system for executing a program of instructions in communication with an externalized inference component.*) comprising:

a memory device storing data (*see* pp. 6-8, Examiner interprets a "relational databases...supported by BRBeans" to be memory devices storing data.), the program of instructions and the externalized inference component (*see* p. 9, §Installing a BRBeans jar file on AE – overview, *Examiner interprets the "BRBeans <.jar file>" to contain the program of instructions and the externalized inference component.*);

a processor for receiving the data and executing the plurality of instructions and the externalized inference component to perform a method for deriving knowledge from the data (see p. 47, "If these are not specified, then the name server used by the container in which the application is running is used. If the application is not running in a container, then localhost is used for the host name, and 900 is used for the port number.", *Examiner interprets the "name server" or the "localhost" to be computers comprising a processor for receiving the data and executing the plurality of instructions and the externalized inference component to perform a method for deriving knowledge from the data.*) comprising:

evaluating the data of an externalized inferencing component in the presence of the parameters passed by a trigger point within the program of instructions to perform an inference (*see* pp. 26-27, §Situational Trigger Point - an example, code fragment, *Examiner interprets: a classifier rule to be an externalized inferencing component (Buisness Rule Bean (see pp. 2-4)) the data of the externalized inferencing component to*

be the "Customer cust" object, "TriggerPoint tp" to be a trigger point, and "Object [] classifierPlist" to comprise parameters passed by a trigger point within the program of instructions to perform an inference, and "result = tp.triggerSituational(this, classifiedPlist, classifierPlist, classifiedRule,classifierRuleName)" to be the point where the evaluation occurs.), wherein the externalized inferencing component is in communication with the program of instructions (*see* p. 20, *Examiner interprets the "Firing Location" parameters to govern how the externalized inferencing component is in communication with the program of instructions.*), wherein the inference is a derivation of the knowledge (*see* p. 45, §Writing your own strategies, steps 1-3, *Examiner interprets the "firing strategy fires the rules found by the finding strategy, possibly modified by the filtering strategy...gathers up the results of the individual rules and these results are passed to the combining strategy" to implement derivation of the knowledge through firing a rule (i.e., inferencing).*); and

outputting the knowledge derived by the inference to the program of instructions (*see* p. 45, §Writing your own strategies, step 3, *Examiner interprets passing the results of steps 1-3 "to the combining strategy" to be outputting the knowledge derived by the inference to the program of instructions "to produce the final result of the trigger".*).

Regarding claim 3. (Currently Amended) *IBM* teaches the method of claim 1, wherein the data is stored in persistent memory (see pp. 6-8, §Database considerations, *Examiner interpret DB2, Oracle, Sybase, and Informix to store data in persistent memory.*).

Regarding claim 4. (Currently Amended) *IBM* teaches the method of claim 1, wherein the externalized inferencing component include at least one of a trigger point, a short term fact, an inference rule, an inference engine, a static variable mapping, a sensor, an effector, a long term fact, and a conclusion (*see* pp. 22-29, §Trigger Point Framework – overview).

Regarding claim 5. (Currently Amended) *IBM* teaches the method of claim 1, wherein the externalized inferencing component include at least one of a trigger point component, a short term fact component, an inference rule set component, an inference engine component, a static mapping component, a sensor component, an effector component, a long term fact component, and a conclusion component (*see* p. 22, §Trigger Point Framework – overview, *Examiner interprets "the BRBeans trigger point" to be part of the BRBeans externalized inferencing component set.*).

Regarding claim 6. (Currently Amended) *IBM* teaches the method of claim 2, wherein the externalized inferencing component is one of a consumer of data provided by an inferencing component, a supplier of data provided by an inferencing component, and a combination thereof (*see* pp. 26-27, §Situational Trigger Point - an example, code fragment, *Examiner interprets: the externalized inferencing component to be the "Customer cust" object to be one of a consumer of data provided by an inferencing component.*).

Regarding claim 7. (Currently Amended) *IBM* teaches the method of claim 1, further comprising the step of associating the trigger point with the program of instructions (*see* pp. 26-27,

§Situational Trigger Point - an example, code fragment, *Examiner interprets the method name called to associate the trigger point with the program of instructions, e.g., setCombiningStrategy in tp.setCombiningStrategy.*).

Regarding claim 8. (Original) *IBM* teaches the method of claim 4, wherein trigger points operate either synchronously or asynchronously (see p. 47, §As Of date, *Examiner interprets "in effect" to allow trigger points to fire rules synchronously and the setAsOfDate method on the TriggerPoint object to to allow trigger points to fire rules asynchronously.*).

Regarding claim 9. (Currently Amended) *IBM* teaches the method of claim 1, wherein the externalized inferencing component is a master inferencing component that employs at least one other externalized inferencing component (*see* pp. 26-27, §Situational Trigger Point - an example, code fragment, *Examiner interprets: "TriggerPoint tp" to be a master inferencing component that employs at least one other externalized inferencing component, a classifier rule (Buisness Rule Bean (see pp. 2-4)).*).

Regarding claim 10. (Currently Amended) *IBM* teaches the method of claim 1, wherein the externalized inferencing component employs an inferencing engine (*see* p. 45-46, §Writing your own strategies, *Examiner considers the TriggerPoint strategies (FindingStrategy, FilteringStrategy, FiringStrategy, and CombiningStrategy) to comprise an inferencing engine as they control rule firing.*).

Regarding claim 13. (Currently Amended) *IBM* teaches the method of claim 1, wherein the externalized inferencing component is composed of at least one inferencing subcomponent (*see* pp. 45-46, §Writing your own strategies, *Examiner interprets: "TriggerPoint tp" to be an inferencing component composed inferencing subcomponents, TriggerPoint strategies classes (FindingStrategy, FilteringStrategy, FiringStrategy, and CombiningStrategy).*).

Regarding claim 16. (Currently Amended) *IBM* teaches the method of claim 1, further comprising sharing the externalized inferencing component by reference with at least one other externalized inferencing component (*see* p. 47, §The BRBeans Properties file, "When an application attempts to reference BRBeans EJBs, the code will first look for the brbPropertiesFile Java property. If this property is specified, then the names listed in that file are used to find the EJBs, overriding any EJB references that were specified in the container (if the application is running in a container). If the property is not specified, then BRBeans attempts to use the EJB references specified in the container.").

Regarding claim 17. (Currently Amended) *IBM* teaches the method of claim 1, wherein the externalized inferencing component performs method steps to one of create, update and delete another externalized inferencing component (*see* p. 34, §Rule Management APIs, IRule, "This is the interface used to access the object representing a business rule in BRBeans. It provides methods to read and update attributes of the rule, to delete the rule, and to make a copy of the rule. The methods to create rules are on the IRuleFolder interface since you must always create a

rule into a particular folder.", *Examiner interprets the "com.ibm.websphere.brb.mgmt package" to comprise externalized inferencing components.*).

Regarding claim 18. (Currently Amended) *IBM* teaches the method of claim 1, wherein an algorithm of the externalized inferencing component for performing the evaluation is shared by a plurality of externalized inferencing components (*see* pp. 26-27, §Situational Trigger Point - an example, code fragment, *Examiner interprets class "TriggerPoint" to be an* externalized inferencing component for performing the evaluation which can be shared by a plurality of externalized inferencing components by simply creating an instance, *"TriggerPoint tp", and then calling the instance, as in "result = tp.triggerSituational(this,...)", to perform an evaluation.*).

Regarding claim 20. (Currently Amended) *IBM* teaches the method of claim 1, further comprising providing an inference component management facility to administer externalized inferencing components, the administration including operations to create, retrieve, update, and delete (*see* p. 18, BRBeans Rule Management Application, "The BRBeans Rule Management Application is implemented as a Java Application that runs stand-alone, remotely or locally to the BRBeans rule server. It is used to create, update, expire, and delete BRBeans Rules, and can also be used to interactively import and export BRBeans Rules from/to XML.", *Examiner interprets the "BRBeans Rule Management Application" to provide an inference component management facility to administer externalized inferencing components, the administration including operations to create, retrieve, update, and delete.*).

Response to Arguments

9. Applicant's arguments filed August 27, 2007 have been fully considered but they are not persuasive.

Rejection of Claims 1-33 and 32 Under 35 U.S.C. §102(a)

Applicant argues:

> The externalized business rules of IBM adhere to externalization techniques, wherein logic and data are implemented for making classifications, for example, for checking whether a truck weight entered is valid (see IBM, page 33, point 1). The externalized business rules of IBM are not analogous to externalized inferencing components as claimed in Claim 1. For example, one could write an externalized business rule as described in IBM, however, IBM does not teach how to cause the externalized business rule to do inferencing. The externalized business rules of IBM are used for making classifications and do not include inference components. Inferencing derives new knowledge from rules and knowledge.

Examiner responds:

> The externalized business rules of IBM can be used for more than making classifications,
>
> *see* p. 3:
>
> **Different types of business rules**
>
> > The two types of rules are:
> > · **base** rules (of which there are several kinds), and
> > · **classifier** rules.
> >
> > **Base** rules are the most common type of rule used, and are triggered with the TriggerPoint.trigger method.
> >
> > There are a number of kinds of base rules:

· **Derivation rule**: A rule that uses an algorithm to return a value. It can return any type of value that makes sense in the business context in which it is used. For example, a derivation rule may calculate a discount or compute the total price of an order.

· **Constraint rule**: A rule that confirms that an operation has met all of its obligations, and that a particular constraint or edit has been met. For instance, it may check that a value entered by an external user is within legal bounds. BRBeans provides a special return type: com.ibm.websphere.brb.ConstraintReturn, which can be returned by a constraint-type rule. A ConstraintReturn object contains a boolean value so that if it is false, it can contain information that can be used to produce an external message explaining what constraint was not met.

· **Invariant rules**: A rule that ensures that multiple changes made by an operation are properly related to one another.

· **Script rules**: Scripts implement "micro-workflow" or electronic performance support. They are small, variable pieces of business process which can provide assistance to end-users to get the most from the application.

On the surface, **classifier** rules are much like base rules, however they differ in that they can be used to determine the ways in which variables are classified by a business. Classifier rules are triggered with the TriggerPoint.triggerClassifier method.

Examiner interprets the **Derivation rule** to be able to derive new knowledge from rules and existing knowledge by calling a Java program which can access the contents of the data members or run the member methods of any BRBeans classes to construct any new BRBean class instant within the BRB framework.

Applicant argues:

Compare the operation of IBM's IF/THEN statement; the IF/THEN statement of IBM is a conditional statement used in only classification and lacks inherent inferencing capabilities. The IF/THEN statement, on its own, lacks the complexity for derive knowledge. The IF/THEN statement is merely a logical argument that cannot be

considered an inference as it, by itself, does not derive knowledge. Therefore, IBM fails to teach all the limitations of Claims 1.

Examiner responds:

The programmer is not constrained to use just IBM's IF/THEN statement. The programmer can write their own inference control strategies to derive any knowledge structures within the framework (*see* p. 45, §Writing your own strategies, steps 1-3). Examiner interprets the: "firing strategy", "finding strategy", filtering strategy" to allow gathering up the results of individual rule firings and pass them to the "combining strategy" to derive new knowledge by running any Java program on the results.

Applicant argues:

Claims 3-10, 13, 16-18 and 20 depend from Claim 1. The dependent claims are believed to be allowable for at least the reasons given for Claim 1. Claim 36 includes similar limitations as Claim 1 and is believed to be allowable for at least the reasons given for Claim 1.

Examiner responds:

Claim 1 is not allowed and claims 3-10, 13, 16-18 and 20 are considered not allowable for at least the reasons given for Claim 1. Claim 36 is also not allowed.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by

telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Vincent
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Nathan H. Brown, Jr.
November 10, 2007